VIVIENNE INVESTISSEMENT

Systemic Risk review October 31st, 2014

-0,7 10/31/2014 | Global VI@Risk® Considerable risk | Equity systemic risk indicator

VI@Risk®: our equity risk measure

@Vivienne_AM

The VI@Risk® is a probability measure of the likelihood of a crash on equity markets. It has been developed and live-tested by **Vivienne Investissement** research unit. Don't miss our analysis, keep up to date: follow us on Twitter!

We attended a financial crash

The month of October 2014 remains famous for having been a textbook case of risk management at Vivienne Investissement, perfectly illustrating the functioning of the VI@Risk® and the relevance of its analyses! Let us remember the factual context: October 15th, S&P500 Index just dropped by 5.57% in local currency since September 30th, Japan Topix by 7.74%, Euro Stoxx 50 lost 10.31% and French CAC 40 Index just had a 10.79% drop. Brent crude oil fell by 11.50%. German sovereign 10-year rate fell from 0.947% to 0.756% and the VIX index hit its highest level since June 2012 at 26.3.

Chris Iggo, Fixed Income Chief Investment Officer at AXA IM, notes that « *the best words to describe what happened* [over this period] *on the financial markets is probably* "financial crash" » (OPCVM360 - on 10/23/2014).

Multiple causes

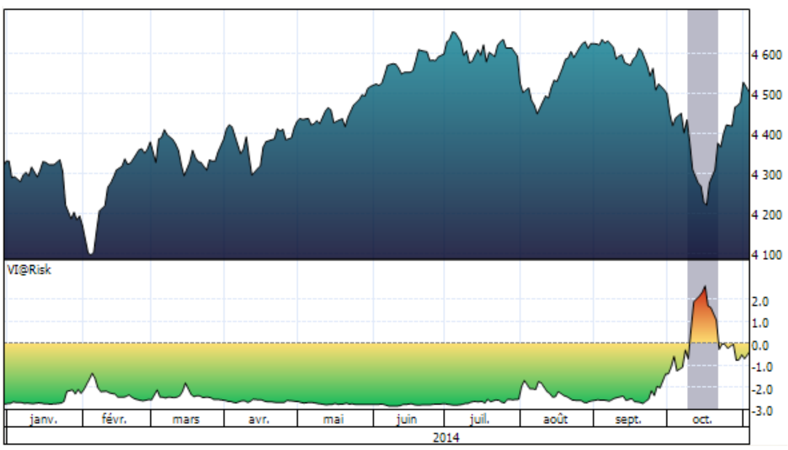
The reasons that could explain these strong panic movements are certainly easy to find *a posteriori*: concerns about the economic vitality of the Euro Zone (especially after poor figures in Germany), deep questions about the practical details of ABS redemption by the Central European Bank mentioned by Mario Draghi at his conference earlier this month, and lack of visibility on the evolution of the monetary policy of the Fed in the medium term (perspective of an interest rates increase). All this against the backdrop of a still latent crisis in Ukraine (which weighs on the German economy), the alarming spread of the Ebola virus and growing uncertainty about the threats of unrest in the Middle East.

The interaction between factors was decisive

It is however much more difficult *ex ante* to predict market behavior. It is known that each of these concerns or bad news could seperatly have a negligible or transitory impact on the level of markets valuation, if the market was **resilient** enough. However, to manage risk in an anticipatory way, it should be noted that different mechanisms operate in the background, and that's the whole point of VI@Risk®. This indicator of systemic risk rests on a **multi-factor model of contagion** that allows us to understand and represent the complex phenomena of interaction and flow of risk across different asset classes and macroeconomic factors. The concept of "**interaction**" is important here. The VI@Risk® illustrates the "dormant" behavior of long-memory risk: it can be temporarily stored in one or more factors without the stock market have symptoms. The incubation period can last several months and gradually contaminate the other factors through dependency links. This is what was observed in particular before the crash of July-August 2011.

What we learn from the VI@Risk®

From 2014 October 1st, the VI@Risk® increased on the *considerable risk* level, the last rung of the ladder before the critical threshold. The connection process between risk factors had already started on September 22nd and was quickly worsened on 29th with a strong factors integration. The risks were particularly high on emerging debt, but came from the US and BRIC equities. From October 9th, the VI@Risk® crosses the critical threshold and enters the red zone. « *In those periods when the VI@Risk® goes into the red, we know that the market reaction to bad news, even to slightly negative events, can be disproportionate* » points out Laurent Jaffrès, President and Founder of Vivienne Investissement. This is exactly what we call « **low resilience** ». And this phenomenon is well illustrated in practice: October 15th, disappointing minor interest statistics were published (retail sales in the United States and the manufacturing index of the Fed of New York) and they wreaked an unexpected panic, along with a sharp decline in US stocks and a violent reaction on interest rates: the market showed its excitement and nervousness. Similarly, the Chinese market was down because of rumors about the delay of the proposed connection between the markets of Shanghai and Hong Kong; in Brazil, the real was volatile and markets excessively agitated pending the results of the presidential elections of 26th. « *We switched from a mild to a wild randomness* [to use the words of the Franco-



Historical values of MSCI World Index and of the VI@Risk®

American mathematician Benoît Mandelbrot], *with a market capable of knowing consecutive correlated returns of extreme magnitude* », Laurent Jaffrès continues.

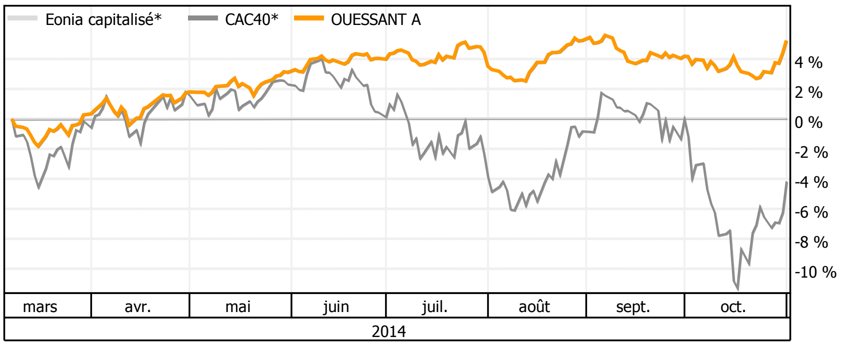
« We switched from a mild to a wild randomness, with a market capable of knowing consecutive correlated returns of extreme magnitude »

In this context, our strategies were already adapted upstream, **in an anticipatory way** – and this was decisive: October 15th, while the CAC 40 Index had dropped by 10.79% from September 30th, **Vivienne Ouessant A** was keeping remarkable stability at -0.04% over the same period.

The key was then to monitor for signs of relaxation (decrease of the risk factors level and the intensity of their dependency) to not miss any of the interesting potential rebound. On October 21st, the **VI@Risk®** already called for calm: it crossed the threshold down, which allowed our strategies to take risk on equity markets early enough.

In short

Over the month of October, the CAC 40 Index lost 4.15% with a *maximum drawdown* of -11.27% while **Vivienne Ouessant A**, thanks to a proactive risk management, gained 1.01% (with a particularly low *maximum drawdown* of -1.44%). This demonstrates the importance of a **risk-driven flexible management** that puts **innovation by research** at the heart of the portfolio construction process. Our credo: **make data meaningful** in order to generate alpha.



Historical values of the CAC 40 Index and of Ouessant A

** This index does not constitute the benchmark of the Fund. Data: Bloomberg.*
Past performance is no guarantee of future results and may fluctuate over time.

Construction of the indicator

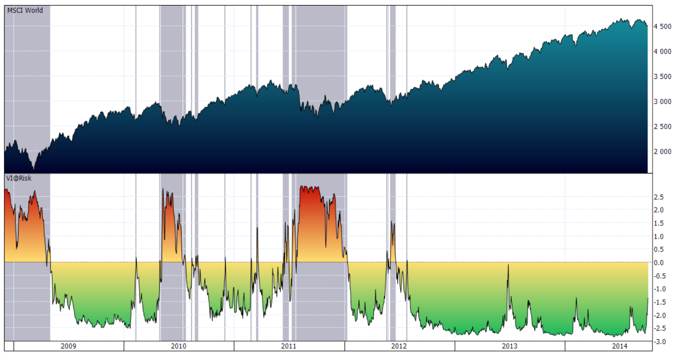
The **VI@Risk®** is based on a quantitative analysis of systemic risks and estimates the occurrence probability of a market krach.

Its conception comes from the simple fact that for many years, the interactions between the various global financial actors are increasing, both in number and intensity. By linking a complex way all actors, these interactions can lead to a **general collapse**, a contagion cascade between the different economic sectors: this is **systemic risk**. In a world where all actors are connected, it is difficult to protect invested capital. It is therefore imperative to assess this risk regardless of our market exposures. *A priori*, this risk will have different impacts depending on the sector studied; in our approach, we start from this definition to analyze the consequences specific to equity markets by integrating most financial actors as sources of systemic risk.

This advanced analysis is quantified by our indicator **VI@Risk®**, which varies between -3 and +3:

> Positive values in red indicate extreme risk of falling prices.
> Zero corresponds to the threshold of the indicator.
> A threshold crossing reveals a change in market conditions.

There are several declinations of the indicator according to geographical area (Europe, U.S., ...).



Ouessant is listed on:

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